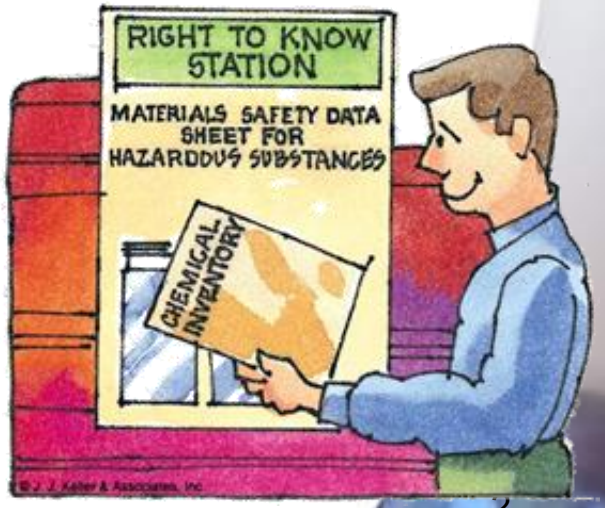
Worldwide
Safety Data Sheet(SDS)
Process/WERCS

Definition

Safety Data Sheet (SDS):

(Material Safety Data Sheet MSDS)

Document used for recording information regarding the properties, hazards, safe handling, and emergency procedures for a particular chemical or mixture.



SDS Process

- Safety Data Sheet (SDS) - Why?
  - Define the hazardous components
  - Country regulations
  - Shipping requirements
  - Law
    - Must have access to an SDS
    - Your “Right to Know”

SDS Process

- Benefits
  - Centralized creation process
  - Compliance worldwide
  - Accurate and consistent SDS(s)
  - Quicker, more effective product launches
  - Increased customer service
  - Reduced cost

GHS-Global Harmonization System

GHS

GHS: Globally Harmonized System of Classification and Labeling of Chemicals

Purpose: Achieve global harmonization in the classification and labeling of chemicals (e.g. transport, [M]SDSs)

Proposal: In 1992 an international mandate (Agenda 21, Chapter 19) was adopted at the UN Conference on the Environment and Development (UNCED) to complete the task of the development of a global harmonized hazard classification and labeling system.

Publication of the first GHS Document by the UN in 2003
First revised edition of GHS published in 2005

Goal: Global implementation by 2008

GHS: General Principles

- **Classification criteria for substances and mixtures are based on intrinsic health, physical and environmental hazards**
- **Assignment of a chemical to a**
  - Hazard Class (nature of hazard) and to a
  - Hazard Category (degree of hazard)
- **Classification of mixtures by**
  - Use of the available data for the mixture itself
  - Use of available data of similar mixtures (bridging principles)
  - Conventional method by use of data for ingredients of mixture
- **Hazard Communication via**
  - Labels (packaging)
  - Safety Data Sheets

Classification

National systems: Different classifications worldwide

Example: (Reference: CEFIC, Oct 2005)

<u>Substance – acute toxicity, oral: LD50 = 257 mg/kg</u>

GHS	**Toxic**
EU	**Harmful**
US	**Toxic**
CAN	**Toxic**
Australia	**Harmful**
India	**Non-Toxic**
Japan	**Toxic**
Malaysia	**Harmful**
Thailand	**Harmful**
New Zealand	**Hazardous**
China	**Not Dangerous**
Korea	**Toxic**

GHS Labelling Elements

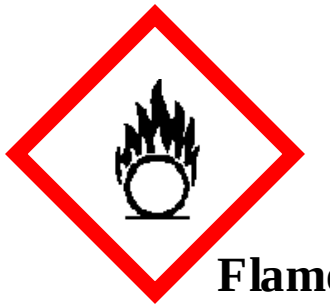
- Pictograms
- Signal Words *(Danger and Warning)*
  (Indication of level of severity of hazard)
- Hazard statements
  (Describing nature and degree of hazard)
- Precautionary statements
- Product Identifier and Supplier identification

GHS Pictograms

Flammable

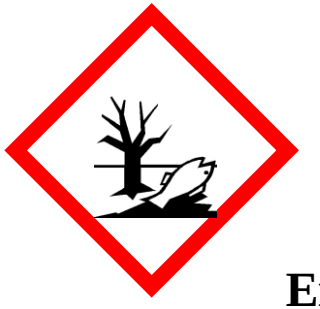
Gas Cylinder

Warning

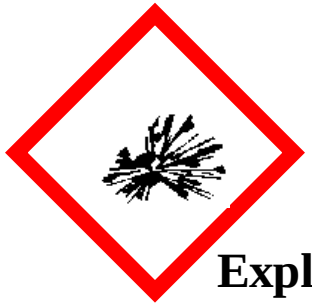


Flame over Circle

Corrosion



Environment



Exploding Bomb

Skull & Crossbones

Health Hazard

Hazard Class
Flammable Liquid

Building Block

Category	Hazard Category 1	Hazard Category 2	Hazard Category 3	Hazard Category 4
Criteria	FP <23°C BP ≤35°C <73°F ≤60°F	FP <23°C BP >35°C <73°F >60°F	FP 23 - 60 °C 73-140°F	FP 60-93 °C 140-200°F
Symbol	Flame	Flame	Flame	No Symbol
Signal Word	Danger	Danger	Warning	Warning
Hazard Statement	Extremley flammable liquid and vapour	Highly flammable liquid and vapour	Flammable liquid and vapour	Combustible liquid

Classification Criteria for Substances Hazardous to the Aquatic Environment

Category	Acute Category 1	Acute Category 2	Acute Category 3
Criteria	< 1.00 mg/l	> 1.00 but < 10.0 mg/l	> 10.0 but < 100 mg/l
Symbol	Environment	*No symbol*	*No symbol*
Signal Word	Warning	*No signal word*	*No signal word*
Hazard Statement	Very toxic to aquatic life	Toxic to aquatic life	Harmful to aquatic life

Category	Chronic Category 1	Chronic Category 2	Chronic Category 3	Chronic Category 4
Criteria	Acute toxicity < 1.00 mg/l and lack of rapid degradability and log K_{ow} > 4 unless BCF < 500	Acute toxicity > 1.00 but < 10.0 mg/l and lack of rapid degradability and log K_{ow} > 4 unless BCF < 500 and unless chronic toxicity > 1 mg/l	Acute toxicity > 10.0 but < 100.0 mg/l and lack of rapid degradability and log K_{ow} > 4 unless BCF < 500 and unless chronic toxicity > 1 mg/l	Acute toxicity > 100.0 mg/l and lack of rapid degradability and log K_{ow} > 4 unless BCF < 500 and unless chronic toxicity > 1 mg/l
Symbol	Environment	Environment	*No symbol*	*No symbol*
Signal Word	Warning	*No signal word*	*No signal word*	*No signal word*
Hazard Statement	Very toxic to aquatic life with long lasting effects	Toxic to aquatic life with long lasting effects	Harmful to aquatic life with long lasting effects	May cause long lasting harmful effects to aquatic life

Global Implementation of GHS

- **Implementation activities started all over the world**

  Several countries and regions are in process to implement GHS in national legislation, e.g.
  - **Canada**
  - **Brazil**
  - **Australia**
  - **Japan**
  - **Asian/Pacific economies**

  Target for implementation: 2006 – 2008

- **GHS option: Building Block Approach**

  „Consistent with the building block approach, countries are free to determine which of the building blocks will be applied in their systems. However, where a system covers something that is in the GHS, and implements the GHS, that coverage should be consistent“

  Conclusion: No totally harmonized C&L system worldwide in near future

  http://www.unece.org/trans/danger/public/ghs/implementation_e.html

Global Implementation – North America

United States:

The Advance Notice of Proposed Rulemaking (ANPR) on amending the OSHA Hazard Communication Standard to make it consistent with the GHS was published Fall 06 in the Federal Register. There was a 60-day comment period ending November, 06.

Global Implementation – EMEA

European Union: On August 21, 2006 the European Commission announced the beginning of its stakeholder consultation process for implementation of the Globally Harmonized System of Classification and Labeling of Chemicals in the European Community by releasing a draft regulation for public comment. The public consultation period on the EU proposals was Fall 06. http://ec.europa.eu/enterprise/reach/ghs_consultation_en.htm

- Adoption to occur with REACH

Global Implementation – Asia Pacific

New Zealand: Adopted a version of GHS in 2001

- Hazardous Substances and New Organisms Act

Japan: Industrial Safety and Health Law (ISHL) amended with GHS criteria (public comment ended September 14)

- Implementation begins December 2006

Australia: Draft National Standard and Code of Practice aligning existing requirements with GHS. Public comment open until February 1, 2007

Next Steps in WA

- OSHA rule finalized
- L&I has 6 months to adopt the federal rule into state rule
- Conceivably, a new rule could be in place by the end of this year
- Pay attention to rule making

Affected WACs

- **WAC 296-800-170 – Chemical Hazard Communication Program**
- **Chapter 296-839 WAC – Content and Distribution of Material Safety Data Sheets (msdss) and Label Information**
- **Biggest impact to MRW facility operations is labeling**

OSHA WEBSITE LINKS

- http://www.osha.gov/dsg/hazcom/global.html
- Of note on this page:
  - Proposed regulatory text (though this is quite old)
  - Side by side comparison of HCS to GHS
  - Links to other federal agency actions (EPA, USDOT, CPSC)

L&I Contact on Global Harmonization System

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